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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,472	07/29/2003	Hideyuki Suzuki	4041K-000142	7304
27572	7590	12/16/2004		
HARNES, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			EXAMINER TRAN, LEN	
			ART UNIT 1725	PAPER NUMBER

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,472

Applicant(s)

SUZUKI ET AL.

Examiner

Len Tran

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 3, and 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flemings et al (US '365).

Flemings et al disclose a mold comprising a fixed mold (32) and a moveable mold (30) (fixed and movable mold as shown in conventional die in figure 1, wherein movable mold is on top moving along the rods) defining a cavity (26), when both molds are closed together, to be filled with molten metal, wherein the fixed mold (32) is provided with heating means (34) and

Art Unit: 1725

the moveable mold is provided with cooling means (col. 2, line 66 to col. 3, lines 1-2), both of which are controlled by temperature control means, wherein the temperature variations in one cycle of the fixed and moveable sections are capable of individually controlled. The temperature control means is capable of controlling from 300 to 700 degrees C in the fixed mold, and also capable of controlling from solidifying to 0 degrees C in the movable mold (col. 3, lines 2-15). The temperature control means are capable of repeating the sequence of the temperature control.

Flemings et al fail to teach the moveable mold only has cooling means and the fixed mold only has the heating means.

However, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to only have heaters in the fixed mold and coolers in the moveable mold, since Flemings et al teaches that the fixed mold is always at a higher temperature than the movable mold, since molten metal has to be kept at melting prior to be introduced into the mold cavity. Therefore, heaters on the movable mold are only for insulation purposes and not for solidifying of the liquid metal. The coolers on the movable molds are for solidifying the cast product.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flemings et al (US '365), and further in view of Yamaguchi et al (US 6,460,596).

Both Flemings et al and Nakano disclose a fixed mold section is disposed on the injection side and the claimed invention above, but fail to teach ejector pins from the moveable section.

Art Unit: 1725

However, Yamaguchi et al disclose an ejector pin (15) on the moveable section (10) for the purpose of removing the product (cast article) upon solidification (col. 6, lines 6-9).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide ejector pins on the moveable section as taught by Yamaguchi et al, in Flemings et al and Nakano in order to release the cast product after solidification.

Response to Arguments

5. Applicant's arguments with respect to claims 1-3, 5-9 have been considered but are moot in view of the new ground(s) of rejection set forth in paragraph 3 and 4.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 1725

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Len Tran whose telephone number is (571) 272-1184. The examiner can normally be reached on M-F, 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KILEY S. STONER
PRIMARY EXAMINER

Kyle Stoner 12/13/04

Len Tran
Examiner
Art Unit 1725

LT

December 10, 2004